JOINT REGIONAL PLANNING PANEL
(NORTHERN REGION)

JRPP No	**2011NTH033**
DA Number	**DA0145/2012 – Lodged 5 October 2011**
Local Government Area	**Tamworth Regional Council**
Proposed Development	**Construction of a wastewater supply pipeline within Council road reserves, from "Blue Tanks", Scott Road, Tamworth to a new wastewater reuse farm at "Whitebox Farm", 197 Marsden Park Road, Calala.**
Street Address	**"Blue Tanks", Lot 9 DP 1094087, Scott Road, Tamworth Council road reserves of Scott Road, King George V Avenue, Cross Park Road, O'Briens Lane and Marsden Park Road and "Whitebox Farm", Lot 21 DP 1077811, 197 Marsden Park Road, Calala.**
Applicant/Owner	**Applicant: Grain Products Australia Pty Ltd** **Owners: Grain Products Australia Pty Ltd and Tamworth Regional Council (Road Reserves)**
Number of Submissions	**Nineteen (19).**
Recommendation	**Conditional Approval.**
Report by	**Amanda Faulkner – Senior Development Assessment Planner** **Jackie Kruger – Director Planning and Community Services**
Report date	**13 December 2012**

Assessment Report and Recommendation

EXECUTIVE SUMMARY:

Reason for Consideration by Joint Regional Planning Panel:

The development application has been referred to the Joint Regional Planning Panel pursuant to Clause 8, Schedule 4A of the *Environmental Planning and Assessment Act 1979* as the development is classified as a "Waste Management Facility" and is Designated Development pursuant to clause 32, Schedule 3 of the *Environmental Planning and Assessment Regulation 2000*. An Environmental Impact Statement (EIS) has been submitted.

Brief Description of Proposal:

The development application seeks consent to construct an underground pipeline 11.2 kilometres in length, beginning at "Blue Tanks" on the existing Scott Road farm travelling along the Council road reserves of Scott Road, King George V Avenue, Cross Park Road, O'Briens Lane and Marsden Park Road, terminating at a new waste water treatment farm ("Whitebox Farm") at 197 Marsden Park Road, Calala.

The proposed provision of infrastructure on "Whitebox Farm" to enable the use of the farm as a wastewater reuse farm.

Background:

Grain Products Australia Pty Ltd (GPA) is a manufacturer of wheat based products. Their factory is located in Marius Street Tamworth (between Fitzroy and White Street) and has been in production for over 60 years. The purpose of the operation is to produce wheat based food additives for the food industry.

Wastewater from the factory, which is a by-product of starch processing, is piped to the existing wastewater conditioning and temporary storage facility known as "Blue Tanks" at the Scott Road farm.

A relatively small fraction of wastewater from the factory is reused at the factory, while the bulk requires off site disposal. Based on its large volume and high nutrient content, the wastewater possesses commercial value as crop irrigation water and nutrient source. GPA currently transfers excess wastewater to "Blue Tanks", where it is treated to control the potential for odour generation (lime addition), then it is irrigated onto commercial crops. Natural nutrient intake by crops, in conjunction with removal of mature plants following harvest, is colloquially termed "cut and carry", whereby crops acts as an effective natural "sink" for nutrient disposal.

The practice of substituting wastewater for high quality water is promoted by the OEH, when it is safe and practicable to do so. The activity undertaken by GPA is regulated by OEH under the Protection of the Environment Operations Act 1997 in accordance with Environmental Protection Licence (EPL No.599). Wastewater is currently reused for crop irrigation on 186 hectares of the Scott Road farm. The EPL requires that regular monitoring and reporting (annual) is undertaken to establish the environmental health status of the irrigation areas.

Monitoring of the Scott Road farm irrigation area has determined that soil nutrient management is unsustainable in the long term. In addition, urban development is gradually encroaching on the irrigation area. In 2004, a consultant was engaged to investigate various alternatives for wastewater disposal including disposal to sewer, recycling within the plant, and development of a new farm. Based on a cost benefit analysis, the development of a new farm was the alternative most likely to provide an economic return over the long term period of 50 years. Investigations of 5 properties within an economical distance of "Blue Tanks" identified "Whitebox Farm" (190 hectares) on Marsden Park Road, as being the most appropriate.

GPA has also established the intention of a group of private Cooperative Irrigators in the local area to receive and irrigate wastewater in their land. The subject lands have not been disclosed to Council and are not the subject of this proposal. The overall strategy aims to commence a reduction in wastewater application to the reuse area on the Scott Road farm in 2013.

GPA will maintain its "Blue Tanks" wastewater conditioning facility at the Scott Road farm. "Whitebox Farm" has a suitable soil type for the wastewater irrigation and is sufficiently close to this facility to be a viable wastewater reuse area. Wastewater transfer will be facilitated by a pressurised underground pipeline.

"Whitebox Farm" alone is not capable of sustainably utilising the proposed wastewater output of 2.30 ML/day or 841 ML/yr. This level of output from the plant will coincide with GPA's future move to full time production. Reliance will be placed on maintaining agreements with the Cooperative Irrigators for the remainder of wastewater disposal. Further agreements will need to be established prior to decommissioning of the Scott Road farm wastewater reuse area.

Previous Development History:

DA No. DA0675/2007 for the construction of a wastewater pipeline within Council road reserves from the Scott Road farm to "Whitebox Farm" was lodged with Council on 4 May 2007. Calala Lane was nominated as the proposed pipeline route. However, given potential issues with respect to disruption of traffic, location of existing utility services along Calala Lane and the adequacy of information submitted, the application was withdrawn by the applicant on 30 March 2010.

Compliance with Planning Controls:

Pursuant to the provisions of Tamworth Regional Local Environmental Plan 2010, the proposed wastewater supply pipeline and reuse farm are defined as a "waste management facility", which is permissible development with consent within the RU4 – Primary Production Small Lots, RU1 - Primary Production and RE1 Public Recreation zones within which the proposal is located.

Integrated Development:

The proposal is integrated development pursuant to Section 91(1) of the *Environmental Planning and Assessment Act 1979,* as:

- The existing Environmental Protection License (No.599), as required by Schedule 1 of the *Protection of the Environmental Operations Act 1997,* will need to be amended by the NSW Office of Environment & Heritage (OEH). In this regard, the OEH has issued "General Terms of Approval", which are contained in Annexure 2.

- The proposal requires a Controlled Activity Approval under the Water Management Act 2000. In this regard, the NSW Office of Water has issued "General Terms of Approval", which are contained in Annexure 2.

Consultation:

The development application was exhibited and notified in accordance with the relevant provisions of the *Environmental Planning and Assessment Regulations 2000* for designated development applications and nineteen submissions of objection. Copies of the submissions are contained within Annexure 1 and are discussed in greater detail later in the report.

Recommendation:

It is recommended that development application DA0145/2012 be approved subject to the conditions of consent contained in Annexure 3.

Annexures:

Annexure 1	Submissions (Confidential).
Annexure 2	Office of Environment & Heritage – General Terms of Approval. Office of Water – General Terms of Approval.
Annexure 3	Conditions of consent.
Annexure 4	Plans.

EVALUATION OF DEVELOPMENT APPLICATION

1 Proposal

The development application seeks consent for the construction of a waste water pipeline from "Blue Tanks" at the existing Scott Road farm to a new wastewater reuse farm at "Whitebox Farm" located at 197 Marsden Park Road, Calala.

The wastewater pipeline aspect of the proposal involves:

The proposal involves the provision of a waste water pipeline that is 11.2km in length with an internal and external diameter of 246mm and 280mm respectively (a PVC pipe). The design maximum capacity of the pipeline is 4.66ML per day which is the required flow rate to accommodate fresh water (2.36ML per day) and waste water (2.3ML per day) transfer once the existing Scott Road Farm is decommissioned.

The pipeline will be trenched approximately 1.1m below ground surface. Manually operated shut valves will be installed at specific locations to isolate sections of the rising main during repair works, internal maintenance or during emergencies. All waterways crossings will have upstream and downstream stop valves for surface water protection purposes. The largest pipeline volume between any successive stop valve pairing is approximately 166kL.

Typically the trench will be 1.5m in depth and 0.7m in width, the waste water pipeline being located a minimum of 1.1m below ground level. Where ground conditions are favorable, under boring will be utilised for the crossing of any water course sealed roads or other obstacles to minimise disturbance. Specialist coring techniques will be employed should conditions prove necessary. Specialist under boring will be required at the Peel River crossing to ensure that the channel is not affected in any way. It is proposed to provide a minimum 3m cover between the bore level and the floor of the river channel. The under boring at this point will ensure river bank stability and pipeline safety during any flood event.

The EIS submitted indicates that off take valves and pipelines will be made available to cooperative irrigators. The specific information regarding the cooperative irrigators has not been provided to Council. The EIS indicates that the cooperative irrigators will use their own existing or new irrigation infrastructure. To comply with the "Effluent Exemption 2008" that is obtained under the Protection of the Environment Operations (Waste) Regulation 2005, no irrigation by means of tanker or truck is permitted at these farms.

"Whitebox Farm" will provide 130ha of irrigable land at a non-flood liable location. This area provides the primary alternative to flood plain irrigation. The EIS indicates that the cooperative irrigators provide a total irrigation area of 183ha. Currently 186ha of irrigation area is provided at the Scott Road Farm.

The design wastewater travel time from "Blue Tanks" to "Whitebox Farm" is less than 3 hours. Upon arrival, stabilised wastewater is directed to the 2ML temporary wastewater storage and aeration tank.

The wastewater reuse farm at "Whitebox Farm" involves:

- The construction of an enclosed 2ML temporary waste water storage and aeration tank.
- The construction of an adjacent emergency wastewater stabilization tank and the provision of 30ML of fresh water and tail water storage.
- Additional tail water capture storages (10ML and 25ML) and associated bunding to create controlled drainage areas for each key irrigation area is proposed.

The waste water will be irrigated using a combination of center pivot and lateral travelling irrigators. The EIS indicates that the proposed irrigation system will include 3 irrigated areas

using either lateral or centre pivot methods. The exact configuration and size of the irrigation areas will be determined by detailed design. To minimise spray drift and associated offensive odours the proposed irrigators will incorporate the use of large sprinkler nozzles with water regulated to low pressure of 15psi.

It is envisaged that forage sorghum, lucerne hay and forage oats will be the crop species grown at "Whitebox Farm", which have been proven suitable for use with waste water irrigation over the past years at the Scott Road Farm. The harvested crops will be sold for commercial purposes.

The proposal also involves a mass planting of eucalypt trees to mitigate deep drainage impacts and intercept any lateral movement of water and nutrients. The trees will also provide an aesthetic visual screening of the development. The EIS indicates that the mass tree planting at "Whitebox Farm" will occur prior to the commencement of pipeline construction. Running simultaneously with the tree planting will be the detailed design of the pipeline and "Whitebox Farm" irrigation infrastructure.

Development of "Whitebox Farm" and construction of the wastewater pipeline will occur simultaneously. It is estimated that a 5 to 6 month period will be required to complete the development. The construction of the pipeline will begin at the Scott Road Farm and terminate at "Whitebox Farm".

2 Site Description

The site includes the "Blue Tanks", Lot 9 DP 1094087 of the Scott Road farm, Scott Road, Tamworth, the Council owned road reserves of Scott Road, King George V Avenue, Cross Park Road, O'Briens Lane and Marsden Park Road and "Whitebox Farm", Lot 21 DP 1077811, 197 Marsden Park Road, Calala.

The pipeline runs through a section of King George V Avenue between Lot 79 DP 755334 and Lot 1 DP 135379, being a Council owned unformed public road reserve, that is currently leased for the grazing of stock. Council can enable the construction of the pipeline through this land as the lease agreement does not provide exclusive use to the Lessee. No other Council lease agreement exist along the pipeline route.

"Blue Tanks" is located on the southern side of Scott Road and is the site which currently receives waste water from the Grain Products Australia plant located in Marius Street Tamworth (between Fitzroy and White Street). Wastewater is transported via an under and below ground pipeline from the Marius Street plant to the existing blue tanks located on the Scott Road farm. The waste water is treated and is then reused for crop irrigation on 186 hectares of the Scott Road farm.

"Whitebox Farm" is located on the eastern side of Marsden Park Road, on the north east corner of the intersection of Marsden Park Road and Whitehouse Lane. The site does not contain any dwellings and it is evident that the site has been previously used for agricultural pursuits. The topography of the site is undulating. A gully containing the Calala Creek traverses the site in a north-south direction. Vehicle access to the site is mainly gained from Marsden Park Road.

Diagram 1 – Locality Plan ("Whitebox Farm")

Diagram 2 – Locality Plan (Pipeline Route)

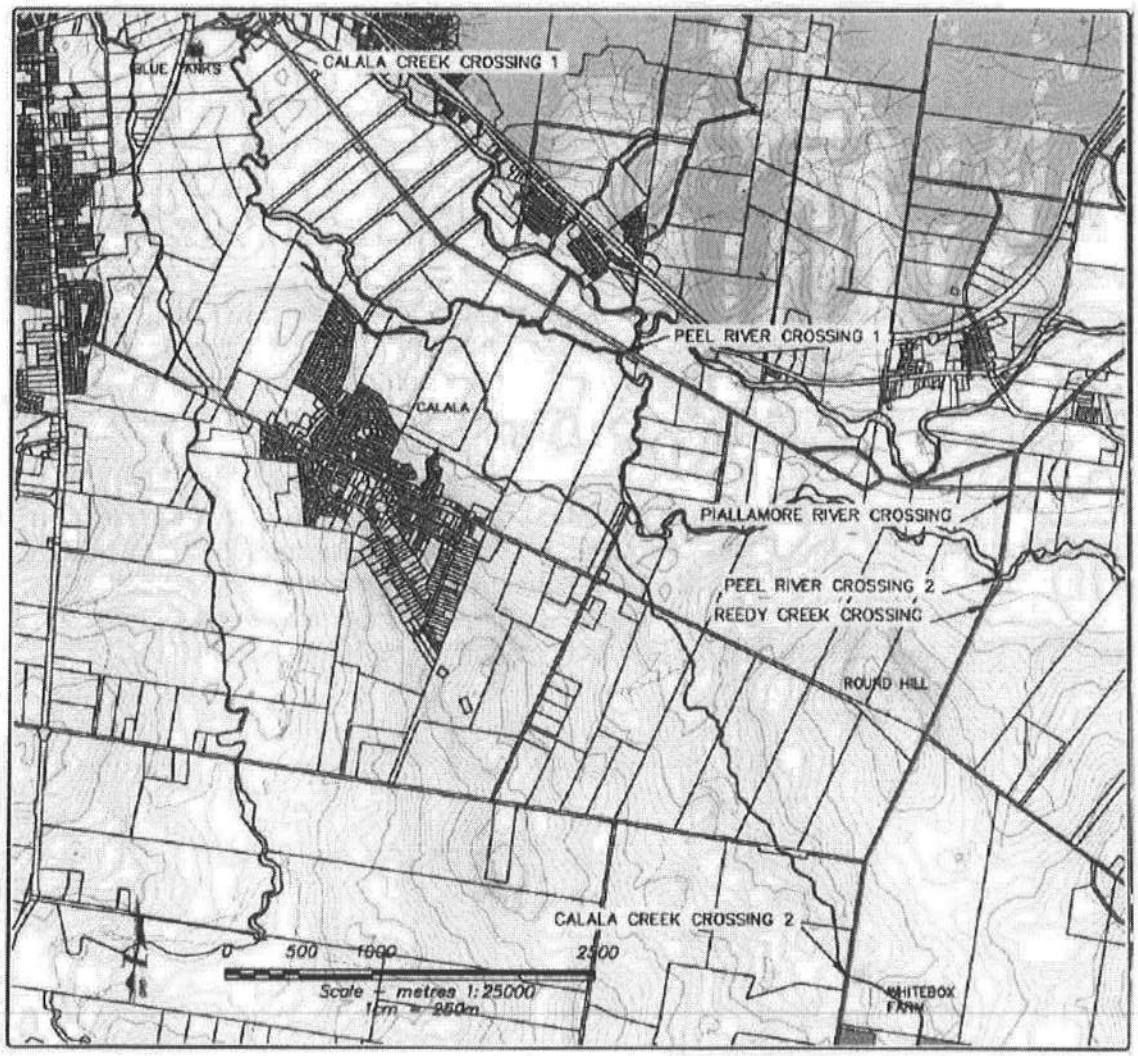

Diagram 3 – Aerial Photo ("Whitebox Farm")

3 Referrals

The development application was referred internally to Council's Infrastructure Planning Division (in relation to Council's road infrastructure) and Water Enterprises Directorate, who have raised no objection subject to conditions.

4 Environmental Planning & Assessment Act 1979 (EPAA) and Regulation 2000

In accordance with the provisions of Part 4 of the EPAA, as the proposal is a "Waste Management Facility", the proposal is "Designated Development" pursuant to clause 32, Schedule 3 of the Environmental Planning and Assessment Regulation 2000.

Accordingly, an Environmental Impact Statement, prepared in accordance with the Director General (of the Department of Planning and Infrastructure) Requirements has been submitted.

S79C(1)(a)(i) Any environmental planning instrument.

State Environmental Planning Policies:

State Environmental Planning Policy No. 44 – Koala Habitat Protection (SEPP44)

Clause 6 of SEPP 44 applies to the development proposal as "Whitebox Farm" has a total area exceeding 1 hectare. A Threatened Species Assessment, prepared by EnviroAg Australia has been submitted.

The Assessment considered the provisions of the SEPP and concluded that all eucalypt trees, including River Red Gums, White Box, Yellow Box and Blakely's Red Gum, contained within the site are scheduled food trees for koalas. However, the proposal does not affect any koala habitat trees, hence a Koala Management Plan is not required.

State Environmental Planning Policy No. 55 – Remediation of Land (SEPP 55)

Pursuant to Clause 7 of SEPP 55 the consent authority is to consider whether or not the land is contaminated, and if it is, whether the proposed land use is compatible with the contaminated state, or if the site will be suitable for that use after remediation.

The proposed pipeline route raises no concerns with respect to the provisions of SEPP 55. The proposed irrigation of the wastewater on produce crops on "Whitebox Farm" does not change the agricultural use of "Whitebox Farm". Hence, the proposal raises no issues with respect to the provisions of SEPP 55.

Regional Environmental Plans:

There are no regional environmental plans that apply to the proposal.

Local Environmental Plans:

Tamworth Regional Local Environmental Plan 2010 (TRLEP)

Pursuant to the provisions of the TRLEP, the proposal is located within the following land use zones:

- "Blue Tanks" (Scott Road) and the roadways of Scott Road, King George V Avenue, Cross Park Road, O'Briens Lane and Marsden Park Road are zoned RU4 - Primary Production Small Lots.
- The road way containing the intersection of the unused Scott Road roadway and King George V Avenue is zoned RE1 – Public Recreation. The pipeline is located within the road reserve, which is an operational asset.
- "Whitebox Farm" at 197 Marsden Park Road, Calala is zoned RU1 – Primary Production.

The proposed development is defined as a 'waste disposal facility' and is permissible with development consent in the RU1, RU4 and RE1 land use zones.

The relevant objectives of the RU4 zone is to:

- enable sustainable primary industry and other compatible land uses
- to promote diversity and employment opportunities in relation to primary industry enterprises, particularly those that require smaller lots or that are more intensive in nature.
- To minimise conflict between land uses within this zone and land uses within adjoining zones.

Comment: Subject to the conditions to minimise potential land use conflicts, it is considered that the proposal is consistent with the zone objectives as it will assist in the provision of a sustainable primary industry on "Whitebox Farm", which will promote diversity and employment opportunities.

The relevant objectives of the RU1 zone are:

- To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.
- To minimise the fragmentation and alienation of resource lands.
- To minimise conflict between land uses within this zone and land uses within adjoining zones.

Comment: Subject to the conditions to minimise potential land use conflicts, it is considered that the proposal is consistent with the zone objectives as it will assist in the provision of a sustainable primary industry on "Whitebox Farm", which will promote diversity and employment opportunities, without resulting in the fragmentation or alienation of resource lands.

Tamworth Regional Development Control Plan 2010

The relevant provisions of TRDCP 2010 have been considered in the assessment of the proposal.

S79C(1)(b) ***The likely impacts of development including environmental impacts on both natural and built environments and social/economic impacts in the locality***

The likely impacts of the proposal including environmental impacts on both the natural and built environments and social and economic impacts have been considered throughout the assessment of the proposal. The potential impacts with respect to the proposed pipeline route and the proposed waste water reuse farm at "Whitebox Farm" are discussed specifically below.

King George V Avenue of Trees

The proposed wastewater pipeline is to be located within the road reserve of King George V Avenue (KGV), commencing at the intersection of an unused section of Scott Road and KGV Avenue and extending along the eastern side of KGV Avenue. The pipeline will cross KGV Avenue at the point in which the road reserve turns at 184-262 KGV Avenue and will then extend along the western side of the KGV Avenue, to the southern end of the road reserve. The pipeline will then be under bored below the Peel River to continue along Cross Park Road.

An avenue of mature oak trees extends along a significant length of KGV Avenue, as indicated on the below aerial photograph. The trees are located on both sides of the bitumen road pavement and are located within the road reserve. Although generally planted in a line parallel to the roadway, some trees have been offset between the line of trees and the boundary of the road reserve. The road reserve also contains utility services.

Although the trees are not listed within Council's Heritage Register, they are listed on Council's Significant Tree Register. Council has recently received advice from the NSW National Trust that the Trust is finalising a listing on the National Trust Register of the KGV Avenue trees. The NSW National Trust has also advised that they are partnering with the other state and territory National Trusts to establish a National Significant Tree Register and the KGV Avenue of Trees will be placed on the National List. At the time of completion of this report, neither listing has been finalised.

The avenue of trees is of significant importance to the Community. Council has received written objections to the proposed pipeline with respect to the potential impacts of the pipeline on the long

term health and longevity of the trees. Potential impacts may be a result of the proposed trenching works, both below ground on the roots of the trees and above ground with respect to trunk or canopy damage. Concerns are also raised in the event of wastewater being leaked from the pipeline or the pipeline being broken.

The significance of the trees and the potential impacts of the proposed pipeline on the trees has been a matter of long and careful consideration by Council staff.

The applicant has submitted an Arborist's report which states that trenching for the pipeline should not occur within 12 times the trunk diameter (assumed at chest height). This distance can be reduced by one third under supervision by a consulting arborist. The largest oak tree within the avenue has a diameter of 0.9m, which equates to a required maximum trenching buffer of 7.2m. It is proposed to place the pipeline trench approximately 8m from the centre of the tree line. The trench will therefore be located between the tree line and the boundary of the road reserve. With respect to trees which are offset from the tree line, the applicant will be required to under bore the trees.

In view of concerns raised, the applicant has advised that an arborist will be on site during the trenching process along KGV Avenue to ensure that the trenching does not affect any trees.

The EIS submitted indentifies that the pipeline is monitored and that the location of stop valves along the pipeline route enables the applicant to isolate any section of pipeline which is leaking.

Subject to appropriate conditions being imposed to prohibit the removal or pruning of any tree located within the KGV Avenue and to require an arborist to be present on site to ensure the trees are not adversely affected by the proposal, it is considered that impacts of the proposed pipeline on the trees will be minimised.

Consideration has been given to the location of existing underground services in the road to ensure that trenching can occur consistently outside the tree root zone and not have to deviate because of existing services. The applicant has provided initial "dial before you dig" information that has not raised any fundamental impacts on the pipeline route. However, prior to any work commencing, a detailed survey and design of the pipeline route is required.

Ground Water Impacts

Concern has been raised with respect to potential impacts of the wastewater irrigation on groundwater. The EIS submitted indicates that the predicted deep drainage level of 202mm per year at "Whitebox Farm" exceeds the targeted threshold of less than 120mm per year. This rate should be understood in terms of its affect on acceptable deep drainage rates.

The EIS submitted indicates that in the case of normal irrigation water, deep drainage of 49mm per year (annual total volume of 63.7ML per year) is appropriate. The total deep drainage at "Whitebox Farm" with an application rate of 120mm per year of wastewater will be approximately 202 mm per year (annual total; volume of 262.6ML per year). This deep drainage is largely driven by rainfall, with a commensurate through flow in a soil profile which is permeable as a result of waste water application.

The excess deep drainage may result in some localised mounding of waters under the irrigation area. This water may move laterally and this flow must be intercepted and taken up. Against baseline drainage of 49mm per year, the excess volume that must be mitigated is the difference of 198.9ML per year (ie 262.6ML per year – 63.7ML per year = 198.9 ML per year).

Potential impacts of this excess deep drainage can be mitigated by mass tree plantings which will intercept and utilise lateral ground water movement prior to any groundwater breakout. These trees will be planted between the treated wastewater reuse area and downstream surface water features.

A number of tree and shrub species were identified as being suitable for planting, given their ability to both access water at depth in soil profiles and utilise either fresh or moderately saline water (up to 3mm per day). The recommended tree and shrub species include:

- Eucalyptus camphora (Swamp gum)
- Eucalyptus stellulata (Black Sally)
- Eucalyptus camaldulensis (River Red Gum)
- Casuarina obesa (Swamp She Oak)
- Grassy white box woodland species (along Calala Creek)
- Eucalyptus albens (White Box)
- Eucalyptus melliodora (Yellow Box)
- Eucalyptus blakelyi (Blakely's Red Gum)
- Melaleuca ericifolia
- Melaleuca decussate (Paper bark)
- Leptospermum polygalifolium.

The EIS submitted indicates that Eucalyptus camaldulensis was used a basis for calculating groundwater uptake. Drawing of groundwater with a salinity level of 5dS/m this species was shown to draw around 730mm per year. Most eucalypt species require an initial spacing of 3m, row spacing of 5m will be implemented to allow machinery access. Therefore, an estimated 685 trees per hectare could be planted.

"Whitebox Farm" will require 30 hectares for revegetation in addition to the 130 hectares for wastewater application to mitigate the effects of the increase in deep drainage. The applicant has indicated that trees will be planted along Calala Creek and the northern boundary. Further planting will be undertaken around the boundaries for screening. A maximum area of 34.6 hectares is available for revegetation.

The EPA have assessed the information submitted in the EIS and to minimise groundwater impacts, have required the applicant to plant a total of 50 hectares of deep drainage and salt interception plantings at least 12 months prior to the wastewater irrigation commences at "Whitebox Farm". This requirement is addressed in section O7 of the General Terms of Approval contained in Annexure 2.

Noise Impacts

A Noise Impact Assessment prepared by Benbow Environmental has been submitted with the EIS. The scope of the noise impact assessment includes both construction noise and ongoing noise impacts from use of "Whitebox Farm".

In view of community concerns raised with respect to potential noise impacts, the Environmental Protection Authority (EPA) has conducted a comprehensive assessment of the potential noise impacts during construction and also the ongoing use of "Whitebox Farm".

The EPA has identified that the noise impact assessment predicted slight exceedances of the operational project specific noise levels at two of the nearest residences ("Rosebank" and 513 Whitehouse Lane) under certain weather conditions (ie when machinery is being operated on particular sections of the "Whitebox Farm" irrigation areas) with noise enclosures in place around the diesel irrigation pumps. The NSW Industrial Noise Policy requires the project specific noise levels (in this case 37dB(A) during the day, evening and night) to be applied as the operational noise limits, which is based on a background LA90 of 32dB(A). If a future background noise assessment was to indicate that a lower background noise environment exists around "Whitebox Farm", that the EPA would need to consider reducing the noise limit conditions accordingly to the default of 35dB(A). The EPA has indicated that it expects that the applicant will manage the site to achieve compliance with the operating noise limits at all times. This is likely to mean that agricultural machinery can only be operated on certain portions of the site when weather

conditions (in particular wind direction) are favourable. This requirement has been reflected in the conditions contained within section L4 Noise Limits of the "General Terms of Approval" contained in Annexure 2, which have been granted by the OEH. It should also be noted that to further reduce noise impacts on residences, Condition L5.3 of the "General Terms of Approval" limits the hours of irrigation to between 7am and 5pm, Monday to Friday only.

The noise assessment also identifies exceedances of the construction noise criteria contained within the EPA's Interim Construction Noise Guideline (ICNG) at residences along the proposed pipeline route during the short term pipeline construction activities. The EPA has indicated that it expects that the applicant will follow the requirements of the ICNG and implement appropriate management actions and liaise effectively with affected parties. Some residences have been identified as potentially highly noise affected by construction activities. Additional management actions may be necessary and should be discussed with the owners/occupiers of these properties before construction works begin to impact upon them (eg respite periods, shorter operation hours or other negotiated solutions).

Air Quality Impacts

An Air Quality Impact Assessment prepared by EnviroAg Australia Pty Ltd has been submitted with the EIS. The Assessment indicates that the proposal is unlikely to have an odour impact on the residences within close proximity of "Whitebox Farm" for the following reasons:

- *"The Calala/Loomberah area has a very low density of residences.*
- *The use of specific spray nozzles which produce large droplets will result in dramatic reductions in aerosol spray drift at "Whitebox Farm".*
- *Improved irrigation scheduling planned for "Whitebox Farm" will result in reduced incidences of excess application resulting in wastewater ponding.*
- *There will be no open storage of wastewater on "Whitebox Farm" as the 2ML temporary wastewater storage and aeration tank will be enclosed.*
- *The two catch dams planned for "Whitebox Farm" will be pumped out for reuse as irrigation water at the next available opportunity after each stormwater runoff event.*
- *It is extremely unlikely that the catch dam will ever contain high strength wastewater because the majority of surface water runoff will be fresh water in the form of rainfall."*

Given the community concerns raised with respect to potential odour and dust impacts on air quality, the EPA conducted a comprehensive assessment of potential air quality impacts.

In this regard, the EPA has stated that the EIS predicted odour impacts at some surrounding residences under certain operating and weather conditions. In response to concerns raised by the EPA, the applicant committed to a range of additional odour mitigation measures and the EPA has also imposed additional operating conditions and a series of pollution reduction program conditions that can be triggered in the event that surrounding residences are impacted by offensive odour emissions. These additional requirements are reflected in Conditions O6.1 to O6.8 and Conditions U1 to U3, respectively within the "General Terms of Approval" (contained in Annexure 2).

It should also be noted that to further reduce potential odour impacts on residences, Condition L5.3 of the "General Terms of Approval" limits the hours of irrigation to between 7am and 5pm, Monday to Friday only.

Soil Impacts

Due to wastewater irrigation, the soils at "Whitebox Farm" will be regularly monitored for phosphorus accumulation, nitrogen leaching, potassium accumulation as indicated by the trace element status of crops, soil structural changes and crop yields. Potential impacts include soil erosion and water logging. Due to the potential for soil degradation the "General Terms of Approval" (contained in Annexure 2) issued by the OEH specify a number of conditional

requirements to ameliorate a number of potential impacts, such as the conditions contained in sections O2, O3, O7, M2, M3, and M4.

Visual Impacts

A Visual Amenity Assessment prepared by EnviroAg Australia Pty Ltd has been submitted with the EIS.

The Assessment considered the visual effect of the development and visual sensitivity of receptors (in this case residences surrounding the site and traffic utilizing adjacent roads), which may accrue to create an impact. Landscape features including distance to the proposed pivot irrigators, vegetative screening and topography were considered in the assessment. A total of fourteen residences identified on the properties surrounding the site, four of which were considered to be outside the visual catchment. The remaining ten residences (including the Department of Agriculture (now the Department of Primary Industries)) were grouped into five localities for assessment.

The Assessment that one locality containing three residences, located to the north east of the site in the vicinity of Oakley Road, will receive an unobstructed, sweeping and relatively close view of the pivot irrigator in the east paddock, resulting in a potentially high visual impact.

There is one locality containing two residences adjacent to the intersection of Marsden Park road and Whitehouse Lane, which will receive a potentially moderate visual impacts of the pivot irrigators in the western paddock.

It should be noted that the three remaining localities located to the north, north-west and ""Rosebank", which adjoins the site to the north, are considered to have low visual impact due to the distances or obstructive views of the pivot.

It is considered that the proposed perimeter dense planting of trees and shrubs along the northern and western boundaries of the site will soften any views of the operation and will thus minimise visual impacts associated with the establishment of the pivots on "Whitebox Farm". It should be noted that Condition O7.1 of the "General Terms of Approval" issued by the OEH contained in Annexure 2, requires the subject plantings to be completed a minimum of 12 months before the commencement of any wastewater irrigation on "Whitebox Farm". Further, it should be further noted that Conditions O.7.2 as O7.3 require maintenance of the plantings and replacement of any failed plantings.

Aboriginal Heritage

An Archeological Survey prepared by Suzanne R Hudson Consulting has been submitted with the EIS. The Survey provides an assessment of the potential impacts of the proposal on Aboriginal heritage for the length of the proposed pipeline line route and at "Whitebox Farm".

The Survey has identified that some sites of Aboriginal and European heritage were found during the survey, including artifact scatters and four scarred trees. Through scientific investigation and aboriginal community consultation, it was determined that only the four scarred trees were identified as being significant and it is recommended that the scarred trees be protected and recorded on the Aboriginal Heritage Information Management System (AHIMS) database.

Aboriginal artefacts located during the survey were isolated finds and were not scientifically significant, being found across the region in many other areas close to permanent or semi-permanent water supply. Hence, no action was recommended other than recording the scarred trees on the AHIMS database for regional reference.

The survey also recommended that if any artefactual material is found during any earth moving works, that work should cease immediately and an Archaeologist and Aboriginal site officer be informed.

The recommendations of the Survey have been incorporated into the recommended conditions of consent.

Flora and Fauna

A Threatened Species Assessment prepared by EnviroAg Australia Pty Ltd has been submitted as part of the EIS. The assessment included an examination of the site for flora and fauna to determine the presence of threatened species, whether it comprised part of an Endangered Ecological Community or if the flora provides critical habitat for threatened fauna, as listed under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) and the Threatened Species Conservation Act 1995 (TSC Act). The potential for the action to contribute to key threatening processes was also addressed.

No threatened species were recorded at the pipeline or farm components of the site. The threatened ecological community White Box, Yellow Box, Blakely's Red Gum Woodland (TSC Act) was recorded. A "7-part test" under section 5A of the EPAA was completed and it was found that threatened flora or fauna species or ecological communities are unlikely to be significantly impacted upon by the proposed development and the implementation of mitigation measures such as avoiding native tree removal on the pipeline route and avoiding disturbance to the Calala Creek gully woodland on "Whitebox Farm", would minimise the impacts of the proposal.

S79C(1)(c) The Suitability of Site for the Development

Subject to conditions, as discussed throughout this report, it is considered that the site is suitable for the proposed pipeline and wastewater reuse farm.

S79C(1)(d) Any Submissions Made in Accordance with the Act or Regulations

The application was advertised and notified in accordance with the *Environmental Planning and Assessment Regulation 2000.* Adjoining property owners were directly notified in writing.

Nineteen submissions of objection were received. The submissions referred to the following issues:

- No consideration of suitable alternative local irrigation sites.
- Insufficient ground water quality data for proper assessment.
- Inconsistent ground water impact mitigation measures and potential for contamination.
- Inappropriate ground water monitoring locations and insufficient ground water monitoring numbers proposed for wastewater irrigation.
- No identification or assessment of impacts on ground water dependant ecosystems.
- Irrigation of the already floodprone "Whitebox Farm" floodplain will increase saturation of the paddocks which will in turn increase the likelihood of flooding occurring from even the most minimal of rainfall events. Flooding constantly damages our driveway.
- Potential for the pipeline to rupture and spill inadequately treated industrial waste.
- Hydrological impacts on the area. Specifically water logging and damage to established native trees and pastures.
- Water from the proposed pipeline will do damage to farm soil. Run off from irrigation and polluted ground water will feed into the Peel River system and the Tamworth City water supply pumping station.
- Deep draining water issues have not been addressed. The proposed use of 30,000 trees to mitigate contaminated deep draining groundwater has not occurred as yet.

- Additional surface water flow caused by saturation of soil by irrigation will have impacts such as increased occurrence of flood events. This effects adjoining land owners.
- Potential to increase salinity on nearby properties could devalue land and decrease crop yields.
- Pipeline will disturb a very unstable environment as far as erosion is concerned.
- Non-compliance with RU1 zone objectives TRLEP 2010 – no suitable alternative sites have been considered.
- Insufficient mitigation measures to minimize odour impacts on neighbouring properties during irrigation periods.
- Odour and air quality impacts from the reuse of effluent.
- GPA have not been able to mitigate objectionable odours from the current site to date.
- The historical significance of King George V Avenue and area will be disturbed by the proposed development.
- The heritage value of the avenue itself, and also the oak trees will be threatened.
- Oak trees should be preserved by development, not impacted upon.
- Alternative route away from trees and King George V Avenue should be considered.
- Amenity of King George V Avenue and historical oak trees will be lost forever.
- Area is a valuable community asset used by many including walkers, riders, photographers, schools etc on a daily basis.
- AS4970-2009 Protection of Trees on Development Sites needs to be given consideration as it shows that a proposed route is not possible in the King George V Avenue vicinity without running through adjoining farmland.
- Petition from 15% of Tamworth's population regarding the King George V Avenue trees has been ignored.
- The King George V Avenue trees are being considered for heritage listing and are on Council's significant tree register.
- One third encroachment into the tree protection zone (TPZ) fails to allow for mature state of the oaks or the lack of root zone due to the existence of the road.
- A TPZ distance of 12 x 3 diameter would see the root protection zone extend beyond road reserve and into neighbouring farmland.
- Alternative routes such as the Dungowan pipeline or Goonoo Goonoo Creek should be explored.
- Pipeline trench will be a minimum of 700mm wide, causing irrepairable damage to the mature oak trees.
- SaveKingGeorgeAvenue Action Group has engaged an equally qualified arborist in Sydney who refutes the tree report advice contained in this DA.
- Valuation of the King George V Avenue precinct has been completed and is in the many millions of dollars. His benchmark will be used against the applicant and TRC should the proposed development be allowed in this historic area.
- Root damage caused to oaks when undertaking trenching and backfilling.
- Not enough room to accommodate the pipeline, existing 500m length of prunis trees and Telstra lines.
- Disruption to existing irrigation water supply whilst proposed pipeline is being installed would decrease farm productivity.
- Disturbance of Council water main from Dungowan Dam which runs under King George V Avenue can, from previous experiences, bring catastrophic consequences.
- Access to the historic "Burnt Bridge" will be impact by the development.
- The proposed Cross Park Road location for the pipeline experiences regular flood events which often destroy any infrastructure in their path. Has this been given consideration?
- Proposed pipeline shows disregard for dollars and time spent by landholders in the area who have undertaken environmental rehabilitation work.
- Council wants trees to be damaged so that they can remove them and construct road to Calala.
- Will result in negative impact on the value of properties.

- No evidence is provided for possible additional fresh water allocations from the Peel River to farms adversely affected by the particular development proposal.
- Noise issues from the use of diesel motors used to drive irrigators and pumps. And aerators and pumps.
- Visual impact of proposed storage dam and proposed tanks on Marsden Park Road will give a peaceful rural area an industrial appearance while also affecting views/vistas.
- Chemical and pesticide use and increased risk of drift over family home due to intensive nature of irrigation proposal.
- Increase insect activity caused by tailwater dams and overhead irrigation.
- Disruption to the amenity of the area and the lives of those who reside in the area.
- Waste water should be piped to Council effluent disposal farm west of Tamworth.

S79C(1)(e) The Public Interest

Submissions made by the public and public authorities have been addressed throughout this report. The significant issues for consideration are related to the potential impacts on the oak trees in King George V Avenue, potential odour, dust, noise, soil and groundwater impacts which have been discussed in this report. Other resident submissions regarding concerns with respect to access to the historic "Burnt Bridge", which is located adjacent to the Peel River, for example have also been considered in the assessment of the proposal. The public interest has been considered throughout the assessment of the application and it is considered that the approval of the application will not be contrary to the public interest, subject to the implementation of the recommended conditions of consent.

5 Roads Act 1993

Section 138 of the Roads Act 1993 prohibits works in, on or under a public road, without the approval of the appropriate roads authority. The pipeline is located within the verge of public roadways, that are local roads, which Tamworth Regional Council is the relevant authority.

6 Water Management Act 2000

Additional applications of freshwater to flush the wastewater pipeline and assist in the provision of nutrient balance on irrigated areas will require the applicant to obtain fresh water licences in accordance with the requirements of the Water Management Act 2000.

In addition, as in some instances along the route of the wastewater pipeline, the proposed trenching is located within 40m of a watercourse, a Controlled Activity Approval from the Office of Water is required and as previously discussed in this report, the proposal is "Integrated Development" in accordance with Section 91(1) of the Environmental Planning and Assessment Act 1979.

CONCLUSION:

The development application seeks development consent for the construction of a wastewater pipeline for Grain Products Australia to transport wastewater generated at the existing Marius street factory to the existing Scott Road farm, from the Scott Road farm to a new wastewater reuse farm at "Whitebox Farm", 197 Marsden Park Road, Calala.

The application has been assessed pursuant to the requirements of the *Environmental Planning and Assessment Act 1979* and *Environmental Planning and Assessment Regulation 2000.* The evaluation of the application has demonstrated that the proposal is satisfactory in terms of the matters for consideration as identified by the legislation.

It is recommended that Development Application No. DA0145/2012 for the construction of a wastewater pipeline within Council's road reserves to a new wastewater reuse farm at 197 Marsden Park Road, Calala be approved subject to the Conditions of Consent in Annexure 3.

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